

## REMARKS

Claim 1 has been amended and claims 3-6 have been canceled. Support for the amendments to claim 1 may be found at least in canceled claims 3 and 6. No new matter has been introduced.

Claims 1 and 7-11 are currently pending and under consideration. Reconsideration is respectfully requested.

### **112 Rejections of claims 4 and 5:**

At page 2 of the Office Action, claims 4 and 5 were rejected under 35 U.S.C. 112, second paragraph. Claims 4 and 5 have been canceled rendering any rejection thereto moot. Thus, withdrawal of the 112 rejections is respectfully requested.

### **103(a) Rejections of claims 1-3, 6-10 and 11:**

At page 3, claims 1-3, 6-8 and 10 were rejected under 103(a) as being unpatentable over Winker et al. (U.S. Patent No. 5, 504, 603) in view of Arakawa (U.S. Patent No. 6, 812,983); and at page 6, claims 9 and 11 were rejected as being unpatentable over Winker in view of Arakawa and in further view of Yang et al. (U.S. Patent No. 5,940,155). The rejections are respectfully traversed.

Regarding the 103(a) rejections of claims 1-3, 6-8 and 10:

Claim 1 has been amended to recite:

“A liquid crystal display comprising:

a liquid crystal panel assembly including two panels and a liquid crystal layer interposed between the panels and having first and second outer surfaces opposite each other;

first and second polarizers on the first and the second surfaces of the panel assembly, respectively;

a first a-plate film with reverse wavelength dispersion that birefringence increases as a wavelength of incident light increases, and is inserted between the first polarizer and the first surface of the panel assembly; [[and]]

a first hybrid c-plate compensation film inserted between the second surface of the panel assembly and the second polarizer or between the first a-plate film and the first polarizer; and

a second a-plate film with reverse wavelength dispersion inserted between the second polarizer and the second surface of the panel assembly and a second hybrid c-plate compensation film, the first and the second hybrid c-plate compensation films inserted between the first a-plate film and the first polarizer and between the second a-plate film and the second polarizer, wherein the first a-plate film satisfies the condition that  $|n_y - n_z| < 0.1 * |n_x - n_z|$ .

The Applicants respectfully submit that neither Winker nor Arakawa discuss or even suggest the Applicants "first a-plate film" and "second a-plate" as recited in independent claim 1, for example.

In contrast, in FIG. 2, Winker discloses a twisted nematic, transmissive type normally white LCD which includes a polarizer layer 222 and an analyzer layer 224, between which a LC layer 226 is disposed. The LC crystal layer 226 is sandwiched between a pair of glass plates 238 and 240 (see column 5, lines 5-23, for example). The Examiner asserts that Winker discloses "an a-plate compensation film" at FIG. 8; Table I on columns 9-10.

At page 4 of the Office Action, the Examiner admits that Winker fails to disclose the Applicant's "...a first a-plate film with reverse wavelength dispersion that birefringence increases as a wavelength of incident light increases ...," as recited in amended claim 1, for example. However, the Examiner asserts that Arakawa makes up for the deficiencies of Winker. The Applicants respectfully disagree with the Examiner.

The Applicants respectfully submit that the a-plate compensation film disclosed in Winker at page 8 is an "a-plate compensation film" having forward wavelength dispersion, which is not comparable to the "first a-plate film" as discussed in claim 1, of the present invention, for example.

Further, Arakawa merely discloses a broad band retardation plate for a LCD, including positive or negative intrinsic double refraction values (see Abstract, for example). The Examiner asserts that column 2, lines 38-43 of Arakawa discloses the Applicants "*the first compensation film being an a-plate compensation film with reverse wavelength dispersion*," as recited in claim 1. However, the Applicant respectfully submit that the cited portions of Arakawa disclose that the retardation values (Re) for wavelengths of 450nm, 550nm, and 650nm are such that the  $Re(450) < Re(550) < Re(650)$ . The Applicants respectfully submit that the cited portions of Arakawa are not comparable to the Applicants "a first a-plate film with reverse wavelength dispersion" as recited in amended claim 1.

Moreover, independent claim 1 has been amended to include the limitations of canceled claims 3 and 6 which are admittedly not disclosed in Winkler, and is not evident in Arakawa, especially column 8, line 13, columns 9-10 and Table I of Arakawa relied upon by the Examiner.

Thus, as mentioned above, Arakawa fails to make up for the deficiencies of Winkler, mentioned above.

Further, the dependent claims 2-11 also include patentably distinguishing features of their own. For example, claim 7 recites "the first a-plate film ranges about 5 nm through about 45 nm for a light wavelength of about 550nm, about  $(0.4-0.7) \times$  (the retardation value for the light wavelength of about 550nm) for a light wavelength of about 400nm, and about  $(1.1-1.4) \times$  (the retardation value for the light wavelength of about 550nm) for a light wavelength of about 650nm". Neither of the foregoing references individually or combined, discuss the features as recited in claim 7, for example.

Regarding the 103(a) rejection of claims 9 and 11:

At page 6 of the Office Action, the Examiner admits that Winkler fails to discuss the features as recited in claims 9 and 11 of the present invention, but alleges that Yang teaches ranges containing the proposed cell gap and retardation ranges at column 4, lines 35-44. The Examiner concludes that it would have been obvious to one of ordinary skill in the art to form the liquid crystal layer disclosed in Winkler to have the proposed cell gap and retardation as claimed, because one would have been allegedly motivated to provide the proposed cell gap and retardation to optimize the display for viewing at wide angles. The Applicants respectfully disagree with the Examiner and traverse the Examiner's assertion and request that the Examiner either provide a reference(s) to support his assertion or withdraw the rejection.

In particular, column 4, lines 35-44 of Yang relied upon by the Examiner merely disclose that "[t]he liquid crystal medium preferably has a positive dielectric anisotropy, a twist angle  $\phi$  in the range from 30.degree. to 85.degree., and a  $d\Delta n$  from 0.2 to 0.55  $\mu\text{m}$ , where  $d$  and  $\Delta n$  are the cell gap and the birefringence of the liquid crystal medium, respectively. The first and second optical compensators preferably have a retardation in the range from -20 to -400 nm. . . . ." (Emphasis added).

Thus, Yang does not teach or suggest wherein a cell gap between the panels of the panel assembly ranges about 3.5-4.5 microns and a retardation value of the liquid crystal layer is in a

range of about 0.35-0.48, as recited in claim 9, and a cell gap between the panels of the panel assembly ranges about 3.5-4.0 microns and a retardation value of the liquid crystal layer is in a range of about 0.25-0.35, as recited in claim 11.

**CONCLUSION:**

All of the outstanding rejections are herein overcome. Reconsideration and withdrawal of all rejections and prompt issuance of a Notice of Allowance is respectfully requested. No new matter is added by way of the present Amendment and Remarks as support is found throughout the originally filed specification, claims, and drawings.

The Examiner is invited to contact Applicant's attorney at the below-listed phone number regarding this Response or otherwise concerning the present application.

If there are any charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicant's attorneys.

Respectfully submitted,

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